

WHAT IS CLAIMED IS:

1. A multilayer ultrathin film which comprises layers of a polymer and layers of lamina particles alternately assembled, said lamina particles are obtained by
5 exfoliating microcrystals of a layered titanium oxide.
2. The ultrathin film according to Claim 1, wherein the lamina particles are titania nanosheets having a compositional formula of $\text{Ti}_{1-\delta}\text{O}_2$ ($0 \leq \delta \leq 0.5$).
3. The ultrathin film according to Claim 1, of which the
10 film thickness can be controlled within a range of from sub-nm to nm.
4. The ultrathin film according to Claim 1, which absorbs ultraviolet light having a wavelength of at most 300 nm with a high efficiency.
- 15 5. A method for producing the titania ultrathin film as defined in Claim 1, which comprises repeatedly soaking a substrate alternately in a sol having titania nanosheets suspended and in a cationic polymer solution so that the nanosheets and the polymer are adsorbed on the substrate
20 each in a thickness of from sub-nm to nm level to form a multilayer having said components alternately accumulated.

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